

CENTER FOR BEAM PHYSICS SEMINAR

“Subpicosecond Measurements of Photoinjector Electron Beam Properties”

William S. Graves, BNL

Friday December 14, 2001, 10:30 AM

Albert Ghiorso Conference Room (71-264), LBNL

***** NOTE: this seminar was originally scheduled for 2:30PM *****

Abstract: The NSLS at BNL has recently commissioned a new high-brightness linac for the purpose of driving a short wavelength, high gain free electron laser (DUVFEL). The accelerator consists of a photoinjector with ultrashort pulse Ti:Sapphire drive laser, 200 MeV linac, and electron pulse compressor. The facility includes instrumentation for measuring electron and photon beam properties with time resolution of less than 200 femtoseconds. Recent results of beam experiments will be presented, including the first measurement of the limiting transverse thermal emittance from the photoinjector, and observations of longitudinal beam breakup into multiple 100-fs long bunches following compression.

Biographical information: Following graduation from San Francisco State University in 1989, Bill earned a Ph.D. in physics from the University of Wisconsin in 1993. Since then he has worked at BNL on the physics of free electron lasers and high-brightness electron beams, particularly in the development of new instrumentation and experiments in electron beam dynamics.